AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (currently amended): A progressive multifocal lens for correcting eyesight comprising:

~~having~~ a progressive refracting interface, said ~~in a~~ progressive refracting interface is located on ~~the~~ a side of an eyeball or ~~a refracting interface~~ on ~~the~~ a side of an object,

wherein the progressive refracting interface ~~including~~ comprises:

a distance portion, ~~and~~

a near portion with different refractive powers, and

a progressive portion of which refractive power varies progressively therebetween,

wherein ~~the progressive multifocal lens is characterized in that~~ the eyeball-side refracting interface or the object-side refracting interface is a combined refracting interface ~~composed of~~ comprising an original progressive refracting interface set only to exhibit a desired eyesight corrective characteristic and an original toric surface set only to exhibit a desired astigmatism corrective characteristic, ~~and~~

wherein, when ~~the~~ z-axis is an axis passing through the center of the progressive refracting interface from the object toward the eyeball, ~~the~~ x-axis is ~~the~~ cylinder axis of the original toric surface, and ~~the~~ y-axis is an axis perpendicular to the x-axis and the z-axis, value z_p

in any point P (x_p, y_p, z_p) in the combined refracting interface is expressed by a first expression (1) or a second expression (2) by using ~~the~~ approximate curvature Cp of the original progressive refracting interface, curvature Cx in the x-axis direction, and curvature Cy in the y-axis direction,

wherein the first expression (1) is expressed as ~~: [Numerical Formula 1]~~

$$z_p = \frac{(c_p + c_x)x^2 + (c_p + c_y)y^2}{\sqrt{1 - \frac{((c_p + c_x)x^2 + (c_p + c_y)y^2)^2}{x^2 + y^2}}}, \quad \cancel{\cdots (1)} \text{ and}$$

wherein the second expression (2) is expressed as

~~[Numerical Formula 2]~~

$$z_p = \frac{(c_p + c_x)x^2}{1 + \sqrt{1 - (c_p + c_x)^2 (x^2 + y^2)}} + \frac{(c_p + c_y)y^2}{1 + \sqrt{1 - (c_p + c_y)^2 (x^2 + y^2)}}. \qquad \cancel{\cdots (2)}$$

2. (currently amended) A progressive multifocal lens according to claim 1, ~~characterized in that~~ wherein an ~~the~~ eyeball-side refracting interface surface or ~~the~~ an object-side refracting interface surface opposite to the surface having the combined refracting interface is spherical or rotation-symmetry aspherical in shape.

3. (currently amended) A method for designing a progressive multifocal lens for correcting eyesight having a progressive refracting interface ~~in a refracting interface~~ on ~~the~~ a side of an eyeball or on a side ~~a refracting interface on the side~~ of an object, the progressive refracting interface ~~including~~ comprising a distance portion, ~~and~~ a near portion with different refractive

powers, and a progressive portion of which refractive power varies progressively therebetween, ~~wherein~~ the method ~~is characterized by~~ comprising:

~~a first step of~~ obtaining an original progressive refracting interface only in order that the eyeball-side refracting interface or the object-side refracting interface exhibits an eyesight corrective characteristic;~~,~~

~~a second step of~~ obtaining an original toric surface only in order that the eyeball-side refracting interface or the object-side refracting interface exhibits a desired astigmatism-corrective-characteristic;~~,~~ and

~~a third step of~~ obtaining a combined refracting interface as the eyeball-side refracting interface or the object-side refracting interface, the combined refracting interface ~~being composed of~~ comprising the original progressive refracting interface set only to exhibit a desired eyesight corrective characteristic and the original toric surface set only to exhibit a desired astigmatism corrective characteristic,

-wherein in the ~~third step~~ obtaining of the combined refracting interface, when ~~the~~ z-axis is an axis passing through the center of the progressive refracting interface from the object toward the eyeball, ~~the~~ x-axis is the cylinder axis of the original toric surface, and ~~the~~ y-axis is an axis perpendicular to the x-axis and the z-axis, value z_p in any point P (x_p, y_p, z_p) in the combined refracting interface is obtained by a first expression (1) or a second expression (2) by using ~~the~~ an approximate curvature Cp of the original progressive refracting interface, a curvature Cx in the x-axis direction, and a curvature Cy in the y-axis direction,~~.~~

wherein the first expression (1) is expressed as ~~[Numerical Formula 3]~~

$$z_p = \frac{(c_p + c_x)x^2 + (c_p + c_y)y^2}{\sqrt{1 - \frac{((c_p + c_x)x^2 + (c_p + c_y)y^2)^2}{x^2 + y^2}}} \text{,} \cancel{\cdots (1)}$$

~~[Numerical Formula 4]~~ wherein the second expression (2) is expressed as

$$z_p = \frac{(c_p + c_x)x^2}{1 + \sqrt{1 - (c_p + c_x)^2 (x^2 + y^2)}} + \frac{(c_p + c_y)y^2}{1 + \sqrt{1 - (c_p + c_y)^2 (x^2 + y^2)}}.$$

4. (new): The progressive multifocal lens according to claim 1, wherein, the value z_p in any point P (x_p, y_p, z_p) in the combined refracting interface is expressed by the second expression (2).

5. (new): The progressive multifocal lens according to claim 1, wherein the object-side has the combined refracting interface and the eyeball-side surface is spherical in shape.

6. (new): The progressive multifocal lens according to claim 1, wherein an eyeball-side refracting interface surface or an object-side refracting interface surface opposite to the surface having the combined refracting interface is rotation-symmetry aspherical in shape.

7. (new): The method for designing a progressive multifocal lens according to claim 3, wherein the original toric surface is obtained by a third expression expressed as:

$$z = \frac{c_x x^2 + c_y y^2}{1 + \sqrt{1 - \frac{(c_x x^2 + c_y y^2)^2}{x^2 + y^2}}},$$ wherein z represents a circular arc of the original toric surface.

8. (new): The method for designing a progressive multifocal lens according to claim 3, wherein the original toric surface is obtained by a fourth expression expressed as:

$$z = \frac{c_x x^2}{1+\sqrt{1-c_x{}^2(x^2+y^2)}} + \frac{c_y y^2}{1+\sqrt{1-c_y{}^2(x^2+y^2)}},$$

wherein z represents a circular arc of the original toric surface.